

REMARKS

Claims 1 and 3-9 are pending in the present application. Reconsideration and withdrawal of the present rejections in view of the remarks presented herein are respectfully requested.

Rejections under 35 U.S.C. § 103(a)

Thompson (US 6,216,027) in view of Thompson (US 5,275,287)

Claims 1-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Thompson (US 6,126,027) in view of Thomson (US 5,275,287). The Examiner alleges that it would have been obvious to apply the teaching by Thomson '287 of a positioning protrusion **24** provided on the top plate that contacts the opening edge when the cap body is seated on the container, and wherein the positioning protrusion is integrated with the inner seal projection so as not to have a gap therebetween in the radial direction of the synthetic resin cap to the cap of Thompson '027.

However, as explained below, one having ordinary skill in the art would not modify the references in the manner suggested by the Examiner. First, the flange **24** and the positioning protrusion recited in the present claims are not only different structurally, but also have completely different functions. More importantly, as also explained below, the Examiner's proposed modification of Thompson '287 would render it unsatisfactory for its intended purpose.

According to MPEP 2143.01(V), a *prima facie* showing of obviousness cannot be established when a proposed modification renders the prior art unsatisfactory for its intended purpose. The sealing portion **14** of Thompson '287 is designed to pivot radially outward about the annular hinge **28**. Thompson '287 clearly describe that the hinge part **28** is provided "between the flange **24** and the top" (column 2, line 17). Thus, moving the location of the flange **24** to the top plate, as suggested by the examiner, would clearly hinder this pivoting function, resulting in incomplete sealing, thereby compromising the intended function of the cap.

Moreover, if the flange **24** was moved to a position adjacent to the top plate, and the hinge was provided beneath the flange, the intended function of the flange, which is to cause "the flange and the sealing portion **14** to pivot radially outward about the annular hinge **28** so as to pivot the plug part into tighter sealing engagement in the neck and to increase the axial length of sealing contact between the frusto-conical face **21** and the inner surface **16** of the neck" (column 2, lines 54-60), would be completely lost. Therefore, the Examiner's proposed modifications

would render the prior art unsuitable for its intended purpose, and one of ordinary skill in the art would have no reason to move the flange to the top. As such, no proper *prima facie* showing of obviousness can be established on the basis of the combination of the two Thompson references.

Thompson (US 6,216,027) in view of Corsette (US 3,069,040)

Claims 1 and 3-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Thompson (US 6,126,027) in view of Corsette (US 3,060,040). The Examiner alleged that it would have been obvious to apply the teaching of Corsette directed to a positioning protrusion provided on the top plate that contacts the opening edge when the cap body is seated on the container, and wherein the positioning protrusion is integrated with the inner seal projection, so as not to have a gap therebetween in the radial direction of the synthetic resin cap to the cap of Thompson '027.

The expander element 16 of Corsette has a similar function to the flange 24 of Thompson '287, and, contrary to the position taken by the Examiner, is not equivalent to the positioning protrusion recited in the present claims. Since the flange 24 of Thompson '027 and the expander element 16 of Corsette are designed to pivot with the plug part itself, the relative position of the flange 24/expander element 16 with the top plate are not fixed. Since their position changes as the cap is screwed on, it is extremely difficult to precisely control the final distance of the bottle opening and the cap top plate, which is accomplished by the positioning protrusion of the present invention.

In contrast to the teachings of the cited references, the positioning protrusion of the presently claimed invention is directly provided at the top plate. Therefore, even when the circular inner seal projection is pivoted, the positioning protrusion maintains its position, particularly its height from the top plate. This feature, combined with the location of the positioning protrusion adjacent to the inner seal projection, unexpectedly results in a precise positioning of the distance between the opening edge of the container opening and the top plate, defining the screwing angle to a designed position. This difference is most clear, for example, during recapping, wherein the axes of the cap and the container opening are not always completely aligned coaxially. Even when the cap is screwed in somewhat obliquely, the inner seal projection of the presently claimed invention has a locating function which leads the cap into a coaxial alignment. Thereafter, the positioning protrusion, directly adjacent to and in precisely

adjusted positional relationship with the inner seal projection, defines the cap position along the aligned axis. This combination of two positioning functions is neither disclosed nor suggested by either referenced, alone or in combination.

In addition, there is an additional disadvantage of the flange 24 of Thomson '027, in the molding formation of such a outwardly expanding protrusion, with an "undercut" part (corresponding to the upper surface 27). After the molding, such an undercut part would be stacked in the mold. Only when the size of such a protrusion is considerably small can the cap be squeezed out of the mold. This problem limits the possible size of the protrusion, resulting in an insufficient function for the positioning purpose, particularly considering the unavoidable variations in dimensions of the cap/bottle in the production process. Thus, the positioning protrusion of the presently claimed invention, which lacks such an undercut part, has an advantage in the production process compared to the cited reference.

In view of the comments presented above, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a).


CONCLUSION

All claims are, therefore, believed to be fully in condition for allowance. However, if minor matters remain, the Examiner is invited to contact the undersigned at the telephone number provided below. Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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